

Illinois Grazing Manual Fact Sheet

ESTABLISHMENT/RENOVATION

Seed Quality



Pure Live Seed Calculations

All seed shall be of high quality and comply with Illinois Seed and Weed Laws. Pure Live Seed (PLS) is an indication of seed quality however it is rarely shown on the seed tag. All Natural Resource Conservation Service (NRCS), and U of I Agronomy Handbook seeding recommendations are provided on a Pure Live Seed basis. To assist in determining the calculations for this we are providing the formula and an example to assist in calculating the proper amount of seed to be sown per acre.

Seed quality shall not drop below 70% Pure Live Seed, PLS, for bromegrass and 80% for other cool season grasses and legume species.

Percent PLS is calculated by multiplying the purity of the bulk seed lot by the percent germination plus percent dormant seed rates, then dividing that sum by 100. If planting a bag of seed that is 94% pure and a germination rate of 80%, with 5% dormant seed then you would calculate it this way:

$PLS = [(\% \text{germination} + \% \text{dormant seed}) \times \% \text{purity}] \text{ divided by } 100.$

$(80\% \text{ germination} + 5\% \text{ dormant seed}) \times 94\% \text{ purity} = 79.9\% \text{ Pure Live Seed}$

If planting 12 pounds per acre PLS and the seed used had a PLS of 79.9% then you would need to purchase 15 pounds of seed per acre to have the proper amount to plant.

$12 \text{ divided by } 79.9 \times 100 = 15.01\#/\text{acre}$

In other words, you would have to plant 15 pounds of material from the seed bag of that species in order to plant 12 pounds of PLS per acre.

Minimum germination percent for warm season grasses shall be as follows:

- Switchgrass – 75%
- Indiangrass – 60%
- Big Bluestem – 60%
- Eastern Gamagrass – 50%

Germination tests should be no older than 6 months on warm season grasses. Farmer-produced seed will be tested for germination prior to seeding.

References

USDA/NRCS Field Office Tech Guide Pasture and Hayland Planting 512, U of I Agronomy Handbook Chapter 8.